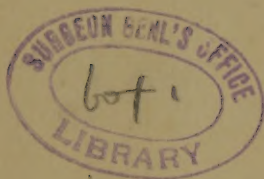
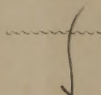


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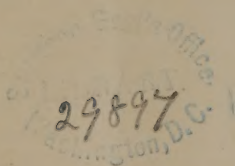
A protest and appeal



A PROTEST AND APPEAL.



BENJAMIN LEE, M.D.



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A PROTEST AND APPEAL;

Or a brief consideration of certain Errors in regard to the Pathology and Treatment of Ulcerative Inflammation of the Spine, commonly called "Pott's Disease."

BY BENJAMIN LEE, M.D.,

Of Philadelphia.

Read before the Medical Society of the State of Pennsylvania, at its session at Altoona, June, 1865.



I HAVE been led to prepare this paper by the frequency with which, in the past two years—during which time I have been devoting myself more especially to the study of diseases of the spine and spinal cord—I have seen the integuments of the back seamed and scored and furrowed by the scars of the seton, the issue, the moxa, and the cautery; and the regularity with which these appearances have been accompanied by serious, generally irremediable deformity, has been remarkable. The question gradually forced itself upon me—Is this treatment, painful in its application, and exhausting in its

operation, sustained by the test of experience or founded on the basis of reason? The numbers of unfortunates whom I saw, who bore unmistakable traces of having fully tested the benefits of this mode, and in whom the disease was still unchecked, or checked only because the deformity had reached its natural limit before the patient had succumbed to its deadly power, gave a sadly eloquent negative to the first clause of the question. Let us briefly consider the second.

If we ask one set of practitioners what is the theory which leads them to adhere to a plan of treatment for the efficacy of which results tell so poorly, we shall be answered that this disease consists essentially in a strumous or tubercular deposit in the substance of the vertebræ, and that they rely on this process of counter-irritation and derivation to prevent this deposition if it has not already occurred, or to remove it if it has. As regards the first of these suppositions, I have only to say that I have seen but one case in which the disease had been recognized before a projection of one or more spinous processes had occurred. This projection can have but one cause, viz., destruction of the vertebral substance, (if the disease be supposed always to originate in the osseous tissue;) and this loss of substance presupposes the previous deposition and softening of the tubercle. As far as prevention goes, then, we may safely consider the treatment as chimeri-

cal, the opportunity almost never presenting for its trial; although, even if it did, it is difficult to see in what way this irritative ulceration of dermis and areolar tissue could avert the blow which a vice of the constitution was aiming at the centre of a subjacent bone. How then is it proposed to eliminate this noxious material? Is it to be bodily extracted through the pus-exuding orifice in the skin? Is the theory with which a female hydropathic practitioner once startled and confounded me when I found fault with their terrible critical eruptions—"that the stuff is in there and must come out,"—relied upon? Or is a part whose vitality was already so low that it could not resist the encroachments of this destructive stranger, to be strengthened and energized to expel it by exhausting the vigor of contiguous but utterly dissimilar tissues? Does any practitioner now-a-days attempt to drag the monster from its lair, by applying setons or issues over the chest in pulmonary phthisis, or over the abdomen in tubercular disease of the intestinal canal? Is not our aim rather, by husbanding every particle of the patient's vital energy, by providing food easy of digestion and assimilation, by surrounding him with favorable hygienic influences, and removing irritating causes, so to modify and improve the processes of nutrition generally, and hence locally, as to enable the region affected to assert its inviolability, and ren-

der the intruder innocuous? Why then should those who believe in the tubercular essentiality of the disease in question adopt this singular mode of attack in this instance alone?

But there are those who deny this essentiality—who say that caries of the spine does not necessarily presuppose a vice of the constitution—who claim, on the contrary, that in the vast majority of cases it is the result of local injury, sometimes, it is true, aided and aggravated by a defective condition of the nutrition at the time of its receipt, but yet primarily traumatic in its origin—the local irritation *inducing* the cachexia, and not dependent upon or resulting from it. That a circumscribed focus of irritation, the result of external injury, is fully capable of inducing a purely cachectic condition even in the most robust individual, what one of our army surgeons, who has before his mind's eye the sad scenes of the past four years, doubts? Indeed, our most reliable recent authorities go so far as to question the possibility of the existence of tubercular deposits in bone. Mr. BARWELL, in his "Treatise on Diseases of the Joints," says, (p. 231,) "Tuberculous deposit in bone is, I believe, very rare; when it does occur, it is a *result*, and not a *cause* of osteitis." He continues—"Dr. CORNELIUS BLACK has published some observations on what he terms 'tuberculous bone,' but he has described under that name what I believe to be filling of the can-

celli by granulations from their lining membrane, the gradual thinning of their walls and enlargement of their cavities, with just that sort of generation of bone which we find in a not very far advanced degree of caries. There is no proof that the material which he found stuffing the cancellous cavities was tubercle. Mr. P. C. PRICE, in his little pamphlet on 'Excision of the Knees,' refuses to discuss the tuberculous or non-tuberculous nature of deposit in spongy bone; but he assumes a peculiar nature for the deposit under the character of a morbid material which partakes more or less of the nature of struma, as developed in other localities of the body. In chapter V., of the present work, was discussed the mode in which tubercle was formed from granulation, and it is unnecessary to go over exactly the same ground in the present instance. We must, however, mention the undoubted fact that many an old and desiccated purulent deposit in bone has been mistaken for tubercle; the position in spongy bone which favors pressure, the assumption therefore of a peculiar form by the dried concretion, and the fact that such pus consists of broken down and disintegrated cells with granules, etc., render the distinction extremely difficult. I must confess that I could accept no case as undoubted tuberculosis of bone unless some of the deposit was in a state of crudity. It must be remembered that when we find tubercles in other organs, even

though most of the material may be in the farthest advanced stage of softening, some will very nearly always be crude; but I am not aware of any observations of crude tubercles in bone.

Some of the most eminent German pathological histologists even go so far as to deny altogether the existence of such an element as a specific tubercle cell, declaring that inflammation is capable, unaided, of producing all the morbid formations generally considered characteristic of the tubercular degeneration. Without following them into their very free discussion, let me call attention to the remarks of Dr. BAUER, of Brooklyn, on this point, as more especially touching the disease in question. In the course of his "Lectures on Orthopædic Surgery," lately published in the "MEDICAL AND SURGICAL REPORTER," he holds the following language: "Before closing the chapter on the causation of posterior deformity, we propose to offer a few remarks on the constitutional causes of this difficulty. In every hand-book of surgery, scrofulosis is generally charged with the mischief. Now, gentlemen, it would be folly on our part to deny *in toto* such constitutional causes that derive their existence from bad hygiene and deranged nutrition. We acknowledge them to the extent of their reality, but consider it equally unjustifiable to enlarge their part in the disease by hypothesis or arbitrary adjustment, as is so frequently done.

If we can clearly establish other plausible causes of the trouble, why should we recur to a strumous diathesis? A healthy child may meet with an accident: deformity of the spine may ensue in an insidious way; the constitution becomes necessarily infringed; the patient anemic and attenuated from pain, want of rest and appetite. Thus we have the ordinary effects from ordinary causes, as we can observe them in daily pursuit of our vocation, a clear case throughout." Further on he says: "As a general thing the deformity has existed for some time; has considerably advanced, and has already made some impressions upon the constitution of the patient when your attention is invited. The apparent absence of all external causation, and the constitutional derangement along with the curvature, have misled so many authors to presume the pre-existence of dyscrasia, or, as it is called, a strumous diathesis. These suppositions, we opine, are utterly devoid of foundation. Careful and patient investigation will mostly discover the fallacy."

For myself, I base my conviction that the disease is generally of the nature of a simple inflammation, often the result of external violence, upon one single fact, viz., the results of appropriate treatment. It is evident, as before remarked, that the mere presence of a tubercular deposit in the body of a vertebra is not of itself capable of producing deformity. To effect this result the

tubercular mass must have begun to soften, the hard lamella of the outer surface must have been broken down and dissolved. In other words, the tubercle is not encysted and undergoing the innocuous calcarization, but is passing into its second stage of destructive degeneration. Now is it possible to conceive that a mere mechanical relief from pressure and concussion at the seat of this actively and essentially destructive process, constantly stimulated as it is by a *vis a tergo*, the vice of the constitution, which not only sent out the advance guard of the disease, but with every pulsation of the heart is hurrying up reinforcements,—is it possible, I say, to conceive that the simple relief from pressure and mechanical irritation at this point, without the slightest attempt to combat the constitutional taint by general medication, could cause an abrupt cessation of the immediate suffering, a rapid abatement of all the general constitutional symptoms, the complete disappearance of the cachectic diathesis, and final restoration to health? And yet this result I have seen over and over again, in every stage and every type of the disease. I cannot then bring myself to accept the generally received opinion that caries of the vertebræ originate in tubercular deposit, or even necessarily in any so-called diathesis.

Following a similar train of reasoning, Dr. LEWIS A. SAYRE, Prof. of Orthopædic Surgery in

Bellevue Hospital Medical College, New York, whose experience on the subject of which he is treating is probably as wide as that of any man in the country, says of the cognate affection, *morbus coxarius*, "The nature and causes of this disease have been of late years a matter of much discussion with the profession, the great majority regarding the disease as connected by necessity with, and originating in and from, the strumous diathesis; that scrofula and hereditary syphilis are the nidus whence alone this disease can arise. But this is a decidedly erroneous view of the truth; a view that is being rapidly dissipated by constantly developing facts.

"That *morbus coxarius* may arise in children whose constitutions have been vitiated by the sins of their ancestors, no one will attempt to deny; for such children are evidently more liable to the disease than those who stand upon a firmer constitutional basis. But that *morbus coxarius* may arise in a child whose constitution is uncontaminated by hereditary taint, and who is perfectly healthy, the observations of every day fully substantiate. I believe that many have attributed the source of this disease to a strumous origin simply from the *appearance* of the patient, whose emaciated spanœmic condition is regarded as the *cause*, when it is in reality the *result* of the disease.

"I have seen children of perfectly healthy

constitutions, in whom the disease arose from an evident traumatic cause, so reduced in the course of a few months by the pain and sleeplessness attending the disease, as to present in a very marked degree appearances which strongly simulate the strumous cachexia. And I have seen robust health and the ruddy cheek restored to these same children by timely surgical aid, together with proper constitutional treatment." After enumerating some of the direct causes of the affection, he says: "What I wish to establish is this—that although the disease in different individuals arises from very different causes, *yet it never arises in any individual from a purely idiopathic or constitutional cause.*"

But many of my professional brethren will say, "We concede you this argument from pathology. We do not believe any more than you do in the tubercular essentiality theory. We take you on your own ground, and admit that in the greater number of cases we have to combat a traumatic inflammation, whether of the bone itself, of its investing membrane, or of the inter-vertebral cartilage. Why is not counter-irritation in the manner animadverted on, allowable and advisable under these circumstances?" I answer—first, because a strict regard for the ethics of our art and an honest self-respect will not permit us to make use of any remedies, however harmless, upon mere theory, if experience has proved them to be

inert. Still less, may we suffer the beauty of a theory to lead us to the adoption of means which after a fair trial have failed to establish their efficacy, if their employment is necessarily attended by excruciating pain, nervous irritation, and general exhaustion. The evidence of its utility should be ample and overwhelming, which could lead us to initiate a mode of treatment which is in itself a disease, and which, were any of us suffering from it, would often be sufficient to incapacitate us from the discharge of our ordinary duties.

Because a patient has gotten rid of a persistent pain in the back while a process of counter-irritation has been going on, we have no right to infer that a case of spinal caries has been averted; for, first, pain in the back may have many other causes; and, second, I assert it most positively, *pain in the back is not a characteristic symptom or even a constant accompaniment of true spinal disease.* In the earlier stages of the affection it is indeed rarely present, generally resulting from the undue strain upon the posterior spinal muscles and ligaments, caused by the growing deformity, and to be classed with the ordinary back-ache of debility.

It is a well-known law that lesions of nerve-centres or of main trunks exhibit their earliest and often their only manifestations, not at or near the seat of disturbance, but at the extremities of

the nerves which have their origin at this point, and a recognition of this law would lead us to anticipate what careful observation will confirm, that, with the exception of deformity, the symptoms of commencing caries of the vertebræ are all general in their character, and at a distance from their source.

But, secondly, this treatment has not even the apology of a plausible and well-reasoned theory to bolster it up. Our standard writers on *Materia Medica*, prominent among whom stands PEREIRA, are forced to acknowledge that all attempts to place counter-irritation upon a rational foundation have utterly failed; that it is based on the observed counter-action of certain diseases upon certain other diseases existing at the time of their incipency, is purely experimental and empirical, and is justified only by its ascertained results in certain classes of cases.

While I can readily admit the possibility of revulsion when we place the entire intestinal tract in a state of erethism, and excite a copious discharge from all its follicles—while I can understand how an agent which stimulates the capillary circulation of the entire lower extremities may exert a derivative influence from distant parts, it does tax my powers of comprehension to appreciate how a small circumscribed focus of suppuration, which possesses no controlling influence over the circulation, can have any other

effect than simply to increase general nervous irritability. That it can restore a carious bone to soundness, appears to me the wildest of fancies.

Thirdly, and especially, this treatment is neither advisable nor admissible, because it consumes precious time, and prevents the employment of a means which is infinitely superior. The most that any man can claim for the results of his counter-irritation in any given case, is to fall back upon the miserable conscience-salving subterfuge, "If it had not been used, the patient might have been worse." All that can be asserted for it is negative. But the physician who makes use of complete support and relief from pressure on the diseased surfaces of contact in this affection, will find to his delight a daily positive improvement which he can trace directly to the treatment which he has adopted.

Let us take the most favorable possible case for the trial—the incipient stage of inflammation, whether traumatic or idiopathic. What condition have we here that does not exist in a case of simple fracture of a long bone? In both there is inflammation of osseous tissue aggravated by motion and pressure. And yet, as Dr. BAUER pertinently suggests, "To what physician has it ever occurred to put a seton or an issue over the seat of a fracture?" Suppose the attempt to be made, and the splints thrown aside as "clumsy mechan-

ical contrivances," who has any doubt as to the result? The parallel is not as forced as might at first sight appear. Did not humanity forbid, I would agree to take any case of simple fracture, of the thigh, for instance, and subjecting it daily to the same amount of pressure and irritation that an inflamed vertebra receives, to develope, in the course of a few months or even weeks, locally caries, and generally, as complete a strumous cachexia, as is found in the average cases of POTT's Disease, and this even though the limb were girdled with setons and issues.

The records of what hospital, the experience of what physician, do not display examples of caries, hectic, cachexia, and even tubercular depositions in distant organs, as the result of compound and comminuted fractures in perfectly healthy individuals? From this analogy, if we are wise, we shall take our hint for the treatment of the spinal affection. But whatever other means be adopted, in the name of humanity, of conservative surgery, of rational medicine, of common sense, which is but another name for pure science familiarly expressed, and of the professional conscience, itself too often seared with the hot iron of routine, I respectfully but earnestly protest against the continuance of a practice based neither on sound reasoning nor successful experience, not only intensely painful and extremely disgusting, but confessedly capable of working

injury to the general health, and which, lastly, entirely prevents the employment of the only rational and successful method of treatment.

Furthermore, I appeal to my professional brethren in behalf of an earlier recognition of this terrible disease. Why is it that our ears are so often pained by the story the mother so sadly tells us, as her eyes rest on the poor little misshapen sufferer by her side, of the long period of invasion, during which all her maternal anxieties were aroused; how she repeatedly called the attention of her medical adviser to the child's condition only to have her fears ridiculed; how her own suspicions as to the safety of the spine began to be awakened—she knew not why—only it would seem by a mother's instinct; how the physician's particular attention was invited to this question, and how he still refused to see anything beyond some trifling indisposition and the mother's nervousness; how he even perhaps sustained his opinion, when hard-pressed, by calling to his aid a fellow-practitioner who fully supported his view of the case, until at last the fatal projection began to show itself, and a perceptible and rapidly increasing deformity confirmed all her anxious forebodings, and convinced the unwilling doctor, before whose eyes all this time a train of symptoms had been slowly passing, as marked, as characteristic, and as easily recognizable to a practised observer, as the signs

of invasion of measles or scarlatina, nay, even as the eruptions which distinguish those diseases.

In the present somewhat divided state of professional opinion on some cardinal points of treatment, caution may be advisable in condemning what seems erroneous to us in the therapeutics of others, but, in this day, when diagnosis is justly made so prominent a part of a thorough medical education, it is greatly to the discredit of the profession, a veritable *opprobrium*, that the discovery of the existence of an affection so well defined in its symptoms, so disastrous in its results, and so amenable to treatment in its earlier stages, should be not only left to unprofessional acuteness, but so often positively and repeatedly denied by the professional attendant. It is no excuse for such remissness to say that mothers, in their hyper-anxiety, often fancy spinal disease when none exists. The very object of a physician's training, the very theory of his attendance, is that his science, experience, and sagacity will enable him wisely to decide between morbid fancies and well-grounded apprehensions, and he neglects his duty when he carelessly and sweepingly stigmatizes every suggestion of the devoted and anxious parent as the offspring of pure nervousness, and unworthy his sapient consideration. It is quite possible, in the vast majority of cases, for the physician to recognize the disease before any projecting spinous process attracts the attention of

the mother, and confutes his deliberately expressed opinion. That this is the case, allow me to show by briefly detailing the symptoms, as nearly as possible in their sequence.

1. Prominent among the early signs—so prominent that I have ventured elsewhere to call it “The Initial Symptom,” is *pain*, *not* in the back, *not* along the spine—for as already said, that is not a symptom, and is scarcely ever seen at the outset—but in the *abdomen*, and generally so circumscribed that we may call it *gastralgia*, although it is doubtful if the intestinal canal be not as much concerned in its production as the stomach. The character of this pain is spasmodic and paroxysmal; I am led to suppose that it arises from spasm of the muscular fibres of the stomach and intestines. It may be excited immediately by the introduction of food into the stomach, by movement or shock to the trunk, as by being lifted, or it may come on without any apparent cause. It is intense and excruciating, often causing most piercing cries; commences suddenly, and as suddenly abates; may be controlled by opium, but yields scarcely perceptibly to ordinary remedies for *gastralgia* or *colic*. In some instances it extends to the sides, and very rarely finds its way round to the back and spine; but this is the exception. After the mother has exhausted her household remedies the physician is called in. If he belong to what we call among

ourselves the old school, he gives a vermifuge; if to the new, bismuth; and failing to relieve it, in either case, he goes on from experiment to experiment, until the actual disease either shows itself and discloses the true nature of the affection, or the pain gradually ceases spontaneously, which it not unfrequently does as the case progresses.

2. Irritability of temper to an excessive degree; nervous impatience and excitability, alternating with malaise and disinclination to exertion. The sudden change in the disposition when relief is procured, is one of the most noticeable features of its treatment.

3. An inability to hold the trunk erect; a constant aiming for support anteriorly; the child, if able to walk, frequently coming to lean on the mother's knee or against a chair, and disliking to be long on its feet.

4. A short, jerking respiration, often quite labored, and accompanied with a slight vocal emission during expiration; often, severe and protracted hiccough.

5. A peculiar and altogether characteristic gait and carriage, having for its object the avoidance of shock and concussion to the spine, and its support by the aid of the muscles of the trunk. To this end the feet are held rather wide apart, with the toes either direct or turned in; often very much so. There is a slight bending at the knee

and hip, to give a greater opportunity for spring, in relieving the force of a descending or accidental step. The trunk bends slightly forward from the hips; the shoulders are thrown back and elevated, and the involuntary swing of the arms somewhat repressed. The head is often thrown back, the occiput sometimes resting on the upper dorsal spine; (this is very noticeable in infants.) The patient objects to turning his head rapidly; moving the body with it, when the attention is attracted. He avoids stepping down from any height, even that of an ordinary stair; will not run or jump; and when desirous of stooping does so by flexing one knee, the back not bending at all. The key to the aspect is rigidity of the spine, to the gait, avoidance of shock. The feet are raised but very slightly in walking, thus producing a kind of gliding motion, and also a tendency to trip or strike the toe.

The forward inclination of the body on the hips is sometimes so extreme, that the patient stands or walks habitually with one hand resting on the thigh just above the knee; and as the right hand is generally in use, the left is usually the one which is thus employed in relieving the pressure from the weight of the trunk. This is often seen with but slight deformity.

6. Coupled with these characteristic symptoms, more than one of which are rarely absent, is usually observed the gradual development of a ca-

cheetic condition, pallor, emaciation or flabbiness of the muscles, tumefaction of the abdomen, loss or perversion of appetite, and very frequently, failure of the digestive power. In some rare cases, paralysis is the first premonition. Dr. STILLÉ, of Philadelphia, has recently related to me a case in which partial paralysis of the left arm, in an otherwise perfectly healthy, robust young woman, was the first thing to attract the attention of herself or her family. This was followed, at no very long interval, after excessive indulgence in dancing, by complete paralysis, both of voluntary and involuntary muscles, and death. Dr. S., with a rare acuteness, diagnosticated caries of the last cervical vertebra, and a post-mortem examination confirmed his opinion, this vertebra being completely perforated by the ulcerative process, which had actually opened into the medullary canal.

With such an array of symptoms, all of which are more or less peculiar to the affection, at his disposal, it is not too much to ask that the physician should not calmly await the evidence that the disease has passed into the stage of ulceration and absorption, before he can make up his mind as to its existence.

One word of caution, and I have done. Let no physician base his opinion as to the existence of the disease on the presence or absence of tenderness at the suspected point. Its occurrence is

only less rare than that of spontaneous pain; and when present, it is accidental. The sufferings of the patient result from the vertical pressure produced by the weight of the head and trunk. A horizontal force applied to the projecting spine not only cannot increase it, but may, if it exert any action, diminish it, and hence prove grateful rather than painful to the patient. There is too much reason to fear that the tenderness which some physicians are so successful in discovering, is simply due to the bruising of the attenuated tissues by their own thumbs and knuckles.

We are fond of claiming it as one of the results which medical science has reason to be proud of, that the sad disfigurement of the human face produced by that once fearful scourge, small-pox, pains our eyes so much less frequently than it did those of our fathers; and enthusiasts have even been found to express the conviction that one day the discovery of JENNER would render such a sight entirely unknown. What vaccination has done for variola—careful diagnosis, coupled with judicious mechanical treatment, may yet do for gibbus; and it is not too much to hope that we may live to see the time when the horrible deformities which almost daily meet our eyes, will become so rare as to be only objects of scientific interest.

109 *South Broad st.*, June 10th, 1865.

